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ABSTRACT

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A method for manufacturing a light-emitting panel sandwiches a plurality of micro-components between two flexible substrates in a web configuration. Each micro-component contains a gas or gas-mixture capable of ionization when a sufficiently large voltage is supplied across the micro-component via at least two electrodes. The micro-components are disposed in sockets formed at pre-determined locations in a first dielectric substrate so that they are adjacent to electrodes imprinted in the first substrate. Dielectric layers and the conductors for acting as electrodes are formed using liquid processes or combined liquid and sheet processes, where liquid materials are applied to the surface of the underlying layer, then cured to complete the formation of layers. The assembled layers are coated with a protective coating and may include an RF shield. In one embodiment, patterning of the conductors is achieved by applying conductive ink using an ink jet process. In another embodiment, the conductors may be patterned photolithographically using a leaky optical waveguide as a contact mask.